

Opinion Piece - Threatened species conservation at the local level in New South Wales

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Introduction

I have worked on threatened species issues in NSW for more than 30 years and over that time have been involved with a range of projects, debates and litigation where threatened species have provided the focus for biodiversity conservation efforts. This involvement began in the late 1970's and through the 1980's before there was formal threatened species legislation and included assessments of the impact of the Eden Woodchip industry and the anti-logging campaigns of Terania Creek, the Blackbutt Plateau (Jerusalem Mountain) and Mistake State Forest. Later in the early 1990's when the *Endangered Fauna (Interim Protection) Act 1991* was introduced, I provided evidence on threatened species concerns to NSW Land and Environment Court hearings including the Camden Haven Canal Development Inquiry and the Chaelundi and Washpool forestry cases. Once the current *Threatened Species Conservation (TSC) Act 1995* became law, I continued to find myself in the Land and Environment Court arguing threatened species issues, such as those involved with the Tomago Sand Mining, Scotts Head Resort and Timbarra Gold Mining disputes.

Threatened Species Conservation in NSW Today

With this background, I consider that government-administered threatened species conservation in NSW today is at the lowest level that I have seen it over the last few decades, a perception that is probably influenced to some degree by past gains.

Despite the significant outcomes of the Comprehensive Regional Assessment process in protecting many of the major forest refuges along the Great Dividing Range (e.g. Flint *et al.* 2004), on the coast and the western slopes and plains, threatened species in NSW now appear headed towards a further round of permanent losses.

In the 1800's and 1900's such losses were mainly due to broad-scale clearing of habitats for agriculture, degradation from grazing practices and the impacts of introduced animals (e.g. Short and Calaby 2001). While the latter two threatening processes continue to operate on the western slopes and plains, losses on the coast now appear to be mostly the result of the degradation, fragmentation and isolation of habitats caused by urbanisation and the development of associated infrastructure.

On the coast, the area where I have had most experience, local and sub-regional extinctions of populations of a number of threatened species are proceeding at an alarming rate. Species that appear to be most at risk are the small to medium-sized ground-dwelling and arboreal marsupials such as the Spotted-tailed Quoll *Dasyurus maculatus*, Brush-tailed Phascogale *Phascogale tapoatafa*, Koala *Phascolarctos cinereus*, Long-nosed Potoroo *Potorous tridactylus*, Squirrel Glider *Petaurus norfolcensis* and Yellow-bellied Glider *Petaurus australis*.

A current example of local populations of two of these species approaching extinction involves the Koala and Long-nosed Potoroo in the Cudgen area of the Tweed Shire coast in far north-eastern NSW. Outside my work with Byron Shire Council, I have been assisting a community group attempting to conserve the last viable populations of these species (among a group of threatened species) centred on and about the privately owned Kings Forest property, north and west of Cudgen Lake and Creek. Kings Forest adjoins the northern section of the small and poorly configured Cudgen Nature Reserve, linking it to the southern (Round Mountain) section. It is an area of very high threatened species diversity that is integral to the long-term maintenance of the Koala, Long-nosed Potoroo and other threatened species on the Tweed coast (Milledge 2005).

Proposed urban expansion planned for Kings Forest, previously used for plantation forestry and grazing but containing significant tracts of native vegetation, has been preceded by widespread and alleged illegal clearing and draining. This habitat destruction was viewed so seriously by the former Department of Environment and Conservation (DEC, now Department of Environment and Climate Change (DECC)) that the property has been the recipient of six interim protection orders (under the *National Parks and Wildlife Act 1974*) over the past few years. Now, through a combination of developer pressure and the intervention of the Department of Planning using new State planning laws that remove the approval role of local government (State Environmental Planning Policy (Major Projects) 2005 Amendment No 10, 06_0132; www.planning.nsw.gov.au/asp/2006_ndetermination.asp), biodiversity conservation concerns have been ignored. Consequently the chances of obtaining protection for the Koala, Long-nosed Potoroo, other threatened species and maintaining biodiversity in the area through application of the TSC Act and the basic principles of landscape ecology appear to have gone.

*David Milledge is an ecologist with Byron Shire Council in far north-eastern NSW. In May 2006 he gave an address to a threatened species protection workshop as part of the Environmental Defenders Office Annual Conference titled "Making Law Work". That presentation forms the basis for this paper but it should be noted that the views expressed are his personal opinions and do not represent those of Byron Shire Council.

Threatened Species Conservation Act 1995 as the basis for Biodiversity Conservation in NSW

It is well accepted that the TSC Act provides the legislative basis for biodiversity conservation in NSW (e.g. Nix and Mackey 2000), although as a mechanism for conserving biodiversity, it is not ideal. For example, the Act is more effective in Byron Shire on the NSW far north coast, where there are approximately 70 threatened plant species, 100 threatened animal species and 12 endangered ecological communities (EECs, Byron Shire Council 2004), than it is in the Eden area on the far south coast where there are far fewer listed threatened species and communities.

However, with the recent increase in the listings of EECs the Act has become more ecological in its application and a more effective tool for sustaining biodiversity. Nevertheless, its focus remains on the less common units in the landscape and I consider it would be preferable to have a *biodiversity* conservation Act rather than a *species* conservation Act, where the emphasis would be on sustaining ecological functioning at the sub-regional and local landscape levels. Unfortunately, such an approach seems beyond the political horizon at present, where the philosophy of “open for business” prevails and it appears that a major campaign will be required simply to maintain the elements of the existing Act.

Threatened Species Conservation Act Under Attack

The TSC Act has been under sustained attack from some resource developers in recent times and in particular over the past few years from property developer and farmer lobbyists via the NSW Ministers for Planning and Natural Resources respectively. The erroneous portrayal of the Act as anti-development and as constraining economic growth (e.g. Nature Conservation Council of NSW 1997, Fowler 2004) has culminated in amendments that have severely reduced its effectiveness, the restructuring of the natural resource portfolios and a takeover by the former Environment Protection Authority (with little expertise in threatened species ecology) of the off-reserve functions of the former NSW National Parks and Wildlife Service (now DECC). As a result, the application of threatened species conservation by the NSW State government at the regional and local levels has been essentially disassembled, relying for its implementation on local government applying development control measures contained in the *Environmental Planning and Assessment (EPA) Act* 1979. However, most Council's lack the expertise and resources to adequately attempt this task.

Recent powers granted to the Minister for Planning under Part 3A of the *EPA Act* remove major developments from adequate scrutiny under the TSC Act, handing the approval role to the Minister rather than the local council. This is also the case for the regulations under the *Native Vegetation Act* 2003, with most recently and alarmingly, the introduction of regulations relating to private native forestry. These legislative changes provide for “biodiversity certification” of the regulations by the Minister for the Environment, effectively “turning off” the statutory powers of the TSC Act and relying instead on inadequate and ineffective “offsets” or

compensatory actions and prescriptions for the protection of threatened species.

The reason for this situation has not been wholly due to farmer and property developer pressure. It has been partly the result of poor application of the TSC Act, amounting to a lack of strategic planning by threatened species management within the former National Parks and Wildlife Service (now DECC). For example, the formulation of Director-General's requirements for species impact statements (SISs), dealing with threatened species affected by development proposals, was frequently overly bureaucratic, onerous and did not focus on the most relevant issues. An approach was apparently adopted of attempting to provide concurrence (approval) to all SISs with a raft of conditions, rather than rejecting the incompetent and those submitted for proposals that would be ecologically unsustainable (ie. the amelioration of impacts rather than refusal). This gave the Act the reputation of imposing obstructive ‘red tape’ within the planning process, and together with a lack of effective implementation of approval conditions and prosecution, has resulted in it becoming relatively ineffective as a tool for biodiversity conservation.

Threatened Species Conservation at the Local Government Level

As a threatened species specialist, it could be argued that my engagement at the local government level is misplaced, but there are two reasons why I have followed this course. Personally, I became disillusioned by the constant frustrations of working for effective biodiversity conservation within State government, due mainly to a lack of resources and to political pressures. But more importantly, the position offered by Byron Shire Council was too attractive an opportunity to ignore. It provided direct involvement with biodiversity conservation planning in a local government area at the centre of the highest density of threatened species in the State and where there is strong community support for biodiversity conservation. The Shire has an innovative biodiversity conservation strategy (Byron Shire Council 2004) based on comprehensive vegetation mapping and threatened flora and fauna databases, where basic ecological principles are applied through the local environment plan (LEP) and other mechanisms such as development control plans and planning approvals to sustain biodiversity (www.byron.nsw.gov.au/pdfs/pub_enviro_planning/biodiversity). This includes protecting, restoring and maintaining ecological functioning and processes, buffering and rehabilitating important vegetation patches and repairing and restoring wildlife corridor links.

The Byron biodiversity conservation strategy was produced and formally adopted in 2004 as an outcome of the Shire's 1996 “Greenprint for the Future” and was supported by a Shire-wide flora and fauna study conducted in 1999 (Landmark Ecological Services *et al.* 1999). The biodiversity strategy employs Council's geographic information system (GIS) and incorporates a high conservation value vegetation layer, developed by scoring mapped vegetation polygons according to a set of nationally and regionally recognised conservation attributes, including their value as habitat for threatened

species. The high conservation value vegetation is combined with wildlife corridor mapping derived from the NSW National Parks and Wildlife Service's (now DECC) north-eastern key habitats and corridors project (Scotts 2003), resulting in a long-term plan for sustaining biodiversity and in particular, threatened species and communities. Currently the strategy is directing action towards remedying some of Byron Shire's most urgent conservation problems including ecological restoration, weed and pest animal control and redressing previously inadequate conservation zoning in the Shire's LEP.

The biodiversity strategy is Council's pro-active or "top-down" approach to biodiversity and threatened species conservation, but its implementation is a slow process and it has encountered some resistance. A number of developers view it as a threat and a few landholders who espouse a "green" philosophy have become less willing to accommodate biodiversity conservation when this is perceived as lowering the economic potential of their land. However, overall the strategy has received wide acceptance and many of the Shire's most valuable vegetation remnants are now being recognised, protected, restored and reconnected.

Failure of the Legislation to Protect Threatened Species

The "bottom-up" component of threatened species conservation in Byron Shire, which mainly involves ensuring compliance with the legislation, is unfortunately not nearly as effective. Breaches of the *TSC Act* reported to the DECC, the State government authority charged with implementing the Act, are seldom investigated and even less frequently prosecuted. The DECC has also ceased providing advice on threatened species issues associated with development applications.

Byron Council encounters breaches of the *TSC Act* on an almost weekly basis, due to its high number of threatened species and communities, but due to apparently deliberate under-resourcing, only the most blatant are likely to receive attention from the DECC. The few investigations that are undertaken are typically cumbersome, burdened by bureaucratic protocols and too slow to react to on-going breaches. As a consequence, the message to less-responsible developers and other members of the community is that the NSW government is not serious about enforcing its biodiversity conservation legislation.

Two Case Studies from Byron Shire

Two on-going cases in Byron Shire serve to illustrate this problem. The first is of a controversial, high profile resort development in swamp sclerophyll forest and floodplain rainforest on the outskirts of the town of Byron Bay. The resort site supports the major part of a population of Mitchell's Rainforest Snail *Thersites mitchellae*, listed as an endangered species under the NSW *TSC Act* and as critically endangered under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*. It is one of only two species for which critical habitat has been declared under the *TSC Act* and has an approved recovery plan in place. The NSW Land and Environment Court approved

the resort development a few years ago (NSW Land and Environment Court case number 10114 of 2000), and as might be expected, surrounded by swamp forest it has a severe mosquito problem. Although this problem was raised during the Court hearing, it was dismissed by the then-owner's consultant as a non-issue and not addressed by the Court. As a result, no conditions were applied in the consent to limit the potentially harmful effects of mosquito control on surrounding habitats.

The resort is currently spraying "Bistar Environmental Health Insecticide" onto low vegetation around the accommodation and facilities buildings to achieve mosquito control. Mosquitoes, and presumably many other invertebrates that climb or land on the sprayed vegetation, are killed on contact. The active ingredient of "Bistar" is bifenthrin, which is highly toxic to fish and aquatic invertebrates and many terrestrial invertebrates such as bees (Bifenthrin, pesticide fact sheet, prepared for the US Department of Agriculture, Forest Service by Information Ventures INC, 2005; <http://infoventures.com/e-hlth/pesticide/bifenthr.html>). It is slightly toxic to birds and moderately toxic to ground-dwelling vertebrates. Bifenthrin is banned from use in endangered species' habitats in the United States of America.

There has been no monitoring of the impacts on invertebrates of using bifenthrin around resort buildings, particularly on the population of Mitchell's Rainforest Snail, and management has been unwilling to undertake surveys or supply data they claim to hold on observations of the snail made by bush regenerators. Although Council has written to the DEC (now DECC) to express its concerns, no satisfactory responses or actions have been forthcoming.

The second case involves an area of Wallum sandplain vegetation on the edge of the township of Brunswick Heads that suffers from the legacy of old, inappropriate zoning for residential development. The area has never received the planning attention required to establish and protect its biodiversity conservation values, comprising a mosaic of highly diverse heathland and sedgeland communities interspersed with Scribbly Gum *Eucalyptus signata* woodland. These communities provide known habitat for several threatened species including the Wallum Froglet *Crinia tinnula*, Grass Owl *Tyto capensis*, Koala, Eastern Blossom-bat *Syconycteris australis* and the Yellow-bellied Sheath-tail-bat *Saccolaimus flaviventris*, with the occurrence of the Wallum Froglet established by a fauna impact statement (Woodward-Clyde 1996) previously prepared by the landowner for an unsuccessful development application.

The heathland, sedgeland and woodland are presently tractor-slashed on a regular basis by the land manager to systematically reduce their conservation values, but to date Council has been unsuccessful in attempting to halt or modify this destructive regime. Attempts to have the DEC (now DECC) meet their responsibilities have again resulted in a lack of action, with the suggestion that Council should resolve the matter and because the owner's ecological consultant has stated that slashing is not having a significant effect, then this must be correct. Meanwhile, the destruction of the habitat of threatened species and biodiversity loss continues.

A Solution to Threatened Species Conservation at the Local Level

One mechanism for addressing the problem of conserving threatened species (and communities) at the local level, if the present State government intends to achieve effective reforms, could be to authorise and resource local government to implement the Act itself. Provision of funding and training by the State government enabling local government to hire ecologists with expertise in threatened species, together with delegation of the authority to use the provisions of the TSC Act (and relevant sections of the *National Parks and Wildlife Act 1974*) would make threatened species protection significantly more effective on the ground.

Adequate consideration of threatened species issues during the assessment of development applications plus the ability to apply stop work orders, request the Minister to issue interim protection orders and prosecute breaches

of the Act would provide an effective means of halting the loss of *local* populations from habitat destruction, degradation, isolation and fragmentation, long regarded as a key element in reversing the ever increasing slide of threatened species towards extinction.

Enabling local government to fully protect EECs would also assist in the identification of local occurrences of these communities (often problematic due to different interpretations of the NSW Scientific Committee's determinations) and provide better outcomes for biodiversity conservation.

The NSW government is encouraged to trial such an initiative in Byron Shire where Council has already embarked on a comprehensive program to implement biodiversity conservation. This would support the community's aspirations and efforts and assist in developing an effective model for wider application at the local government level.

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APPENDIX I

Eden woodchip industry



Aerial view of a 200ha clear-fall coupe at Anteater Road near the NSW-Victorian border in the 1970's.

Photo, D. Milledge



View from the ground of the Anteater Road clear-fall coupe shown in the aerial view.

Photo, D. Milledge



A threatened Glossy Black-cockatoo feeding in a Black She-oak.

Photo, D. Milledge

The landscape scale clear-felling of forests for the Eden woodchip industry during the 1970's was one of several destructive forestry practices in NSW that prompted the establishment of threatened species legislation. Logging of this 200ha coupe (pictured from the air and on the ground) at Anteater Road, off the Imlay Road near the NSW-Victorian border, resulted in the loss of almost all trees of the Black She-oak *Allocasuarina littoralis* that provided food for the highly specialised Glossy Black-cockatoo *Calyptrorhynchus lathamii* (pictured). Later logging prescriptions recognised the cockatoo's requirements after it was listed as a threatened species.

Terania Creek proposed rainforest logging



The lowland subtropical rainforest of Terania Creek basin, Nightcap Range in far north-eastern NSW.

Photo, D. Milledge

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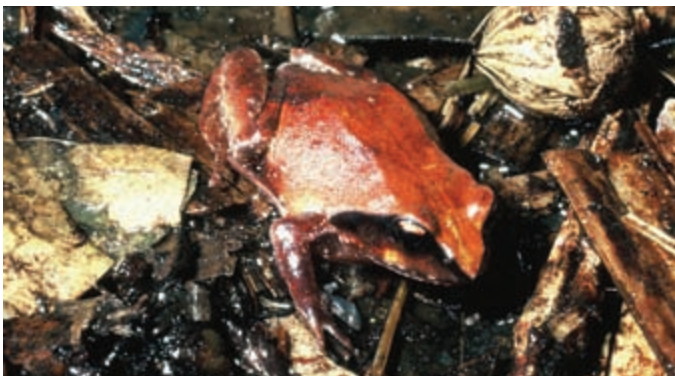
The canopy of the subtropical rainforest of Terania Creek basin.

Photo, D. Milledge



An aerial view of a Bangalow Palm stand in Terania Creek basin.

Photo, D. Milledge



A Loveridge's Frog on the rainforest floor, a threatened species occurring throughout Terania Creek basin.

Photo, D. Milledge



Several pairs of the threatened Marbled Frogmouth are resident in Terania Creek.

Photo, D. Milledge

The early 1980's campaign to protect the lowland subtropical rainforest in Terania Creek Basin (pictured) in far north east NSW from logging initiated the Wran government's decision to protect the majority of the wet forests of the Nightcap and Border Ranges in national parks. This resulted in conservation of some of the State's most important biological refugia, providing habitat protection for many wet forest vertebrates before they received individual protection under the *Endangered Fauna (Interim Protection) Act* and later the *Threatened Species Conservation Act*. The multi-layered tree canopy (pictured) and Bangalow Palm stands (pictured) of the Terania Creek rainforest provide core habitat for a number of threatened vertebrates including Loveridge's Frog *Philoria loveridgei* (pictured) and the Marbled Frogmouth *Podargus ocellatus* (pictured).

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Blackbutt Plateau proposed old-growth logging



An old-growth Blackbutt stand on the Blackbutt Plateau near Jerusalem Mountain in far north-eastern NSW.

Photo, D. Milledge



A Sooty Owl at its nest hollow in an old-growth eucalypt, a threatened species regularly recorded on the Blackbutt Plateau.

Photo, D. Hollands



A threatened Eastern Pygmy-possum, occurring in old-growth forest on the Blackbutt Plateau.

Photo, D. Milledge

The late 1980's campaign followed by the Carr government's decision to exclude the old-growth forest of the Blackbutt Plateau (pictured) on the NSW far north coast from logging afforded protection to a number of hollow-dependent vertebrates before they were listed under the *Endangered Fauna (Interim Protection)* and the *Threatened Species Conservation Acts*. Such species included the Sooty Owl *Tyto tenebricosa* (pictured) and the Eastern Pygmy-possum *Cercartetus nanus* (pictured).

Timbarra gold mining



Hastings River Mouse habitat in boulder piles destroyed during reconstruction of the Timbarra Gold Mine Road across the Timbarra Plateau, located on the northern edge of the New England Tablelands.

Photo, D. Milledge



Old-growth hollow-bearing New England Blackbutts were felled for the construction of a powerline along Timbarra Road.

Photo, D. Milledge



Inadequate sediment controls resulted in the destruction of threatened frog breeding habitat in creeks crossed by the Timbarra Road.

Photo, D. Milledge



The threatened Stuttering Frog breeds in a number of streams on the Timbarra Plateau.

Photo, D. Milledge

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The threatened Pugh's Frog occurs in soaks and the headwaters of creeks on the Timbarra Plateau.

Photo, D. Milledge

The Timbarra gold mining dispute east of Tenterfield in northern NSW in the late 1990's and early 2000 marked a period when political pressure combined with poor application of the *Threatened Species Conservation Act* lessened the Act's effectiveness. While operation of the gold mine itself impacted significantly on threatened species, exploration works and the provision of mine infrastructure resulted in more widespread and probably more severe impacts. Clearing for road and powerline construction destroyed old-growth trees (pictured), that provided nest and roost sites for threatened owls and microchiropteran bats, and boulder piles (pictured) that sheltered the threatened Hastings River Mouse *Pseudomys oralis*. Road works caused extensive sedimentation (pictured) that destroyed breeding habitat of the threatened Stuttering Frog *Mixophyes balbus* (pictured) and exploration works destroyed the habitat of the threatened Pugh's Frog *Philoria pughi* (pictured).

Kings Forest urban expansion lands



Regenerated Wallum sandplain vegetation in the Kings Forest lands in 1988, located in Tweed Shire in far north-eastern NSW.

Photo, D. Milledge



Cleared Wallum sandplain vegetation in the Kings Forest lands in 2001.

Photo, D. Milledge

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Regenerated Wallum sandplain vegetation in 2005 at the same location in the Kings Forest lands as in the 2001 photograph.

Photo, D. Milledge



The deep drain and levee constructed through the State-significant wetland in the Kings Forest lands in 2005.

Photo, D. Milledge



A threatened Long-nosed Potoroo captured and released in the Kings Forest lands in 1988.

Photo, D. Milledge

Coastal Wallum communities growing on old Pleistocene sands, although reserved in some national parks and nature reserves are fast becoming islands in a sea of development. Many are too small and poorly configured to be able to withstand the pressures of urbanisation and climate change. Planned urban expansion into regenerated Wallum sandplain vegetation in the Kings Forest area in Tweed Shire (pictured) on the NSW far north coast is expected to result in the extinction of local populations of several threatened species including the Koala *Phascolarctos cinereus* and Long-nosed Potoroo *Potorous tridactylus* (pictured) due to a lack of adequate consideration of their ecological requirements. This situation has resulted from alleged illegal clearing of heathlands and woodlands (pictured), together with the draining of State-significant wetlands (pictured), and now, over-riding of the *Threatened Species Conservation Act* by the lemma government's recent planning legislation.

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Byron Shire threatened communities and flora and fauna species



Swamp sclerophyll forest on coastal floodplains EEC is widespread in Byron Shire on the NSW far north coast.

Photo, D. Milledge



Byron Bay dwarf graminoid clay heath EEC at Cape Byron, Byron Bay.

Photo, D. Milledge



A threatened Pink Nodding Orchid from the outskirts of Byron Bay.

Photo, D. Milledge



Fruit of the threatened Red Boppel Nut from the Byron Shire hinterland.

Photo, D. Milledge

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Flowers of the threatened Durobby, found on floodplains and along lowland creeks throughout Byron Shire.

Photo, D. Milledge



A threatened Wallum Sedge Frog perched on the sedge *Lepironia*, widespread in sedge swamps on coastal floodplains in Byron Shire.

Photo, D. Milledge



The threatened Common Planigale occurs in swamp forests and other coastal floodplain forests and woodlands in Byron Shire.

Photo, D. Milledge



The threatened Large-footed Myotis forages over larger creeks and waterbodies throughout Byron Shire.

Photo, D. Milledge



Threatened Grey-headed Flying-foxes maintain a number of camps in coastal areas of Byron Shire.

Photo, D. Milledge

Byron Shire is at the centre of the area with the highest concentration of threatened species in NSW. Over 70 threatened plant species and up to 100 threatened animal species have been recorded in the Shire and 12 endangered ecological communities (EECs) also occur. EECs such as "swamp sclerophyll forest on coastal floodplains", typically dominated by Broad-leaved Paperbark *Melaleuca quinquenervia* (pictured) are widespread throughout coastal areas of the Shire whereas others such as "Byron Bay dwarf graminoid clay heath" (pictured), containing a diverse mix of banksias, casuarinas, heaths, sedges and grasses are highly localised about Cape Byron. Examples of threatened flora and fauna species often encountered in areas of Byron Shire subject to development applications are the Pink Nodding Orchid *Geodorum densiflorum*, Red Boppel Nut *Hicksbeachia pinnatifolia*, Durobby *Syzygium moorei*, Wallum Sedge Frog *Litoria olongburensis*, Common Planigale *Planigale maculata*, Large-footed Myotis *Myotis adversus* (also known as *M. macropus*) and Grey-headed Flying-fox *Pteropus poliocephalus* (all pictured).

Byron Bay resort mosquito control



Lowland floodplain rainforest EEC bordering a resort on the outskirts of Byron Bay.

Photo, D. Milledge



The bulk of a population of the threatened Mitchell's Rainforest Snail occurs in rainforest and swamp forest around the resort pictured.

Photo, D. Milledge

This resort on the outskirts of Byron Bay intersects swamp sclerophyll forest and floodplain rainforest EEC that support the major part of a population of the threatened Mitchell's Rainforest Snail *Thersites mitchellae*. The resort has a severe mosquito problem and employs spraying of the chemical bifenthrin onto the foliage of low-growing vegetation around accommodation and facilities buildings as a control method. Bifenthrin is highly toxic to fish and aquatic invertebrates and also some terrestrial invertebrates. It has not been possible to determine the effects of the spraying on Mitchell's Rainforest Snail and State government authorities appear indifferent to potential impacts, despite the species' listing as endangered under the *Threatened Species Conservation Act 1995* and critically endangered under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

Brunswick Heads Wallum sandplain vegetation destruction



Regenerated Wallum heathland and woodland at a site near Brunswick Heads in northern NSW in February 2006.

Photo, D. Milledge



Slashed Wallum heathland and woodland near Brunswick Heads in June 2006, at the same location as the photograph taken in February 2006.

Photo, D. Milledge



A dying Scribbly Gum near Brunswick Heads in June 2006, probably impacted by slashing around its root base.

Photo, D. Milledge



A Yellow-bellied Sheath-tail-bat, a threatened species recorded foraging over the Wallum woodland near Brunswick Heads.

Photo, D. Milledge

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An Eastern Blossom-bat in a Wallum Banksia, a threatened species probably adversely affected by slashing of Wallum vegetation near Brunswick Heads.

Photo, D. Milledge

Wallum sandplain vegetation (pictured) growing in a parallel series of swales and eroded dunes south of Brunswick Heads on the NSW far north coast provides habitat for a number of threatened fauna species. The Wallum Froglet *Crinia tinnula* is widely distributed through the swales, and old-growth Scribbly Gum *Eucalyptus signata* woodland (pictured) on the dunes provides foraging habitat and roost hollows for threatened microchiropteran bats such as the Yellow-bellied Sheathtail-bat *Saccolaimus flaviventris* (pictured). Wallum Banksias *Banksia aemula* in the woodland produce nectar that is used by the threatened Eastern Blossom-bat *Syconycteris australis* (pictured). These habitats have been systematically tractor-slashed over past years, reducing their value to threatened species and resulting in a cumulative loss of critical habitat elements. State government authorities have demonstrated an unwillingness to protect threatened species and their habitats in this area to date and new planning legislation is likely to result in threatened species' requirements being largely ignored.